THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

_____

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

_____

Ex parte JOHANNES TENBRINK, PAUL PUNISKA,
VOLKER GLUECKLICH and KLAUS HEINE

_____

Appeal No. 95-3209
Application No. 08/020,304[1]

_____

ON BRIEF

_____

Before KIMLIN, GARRIS and PAK, Administrative Patent Judges.

GARRIS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the refusal of the examiner to allow claims 1 through 3, 6 through 11, 15 and 18 as amended subsequent to the final rejection. The only other claims remaining in the application, which are claims 4 and 5,

[1] Application for patent filed February 19, 1993.

have been objected to by the examiner as depending from art rejected claims but otherwise allowable.

The subject matter on appeal relates to a method for manufacturing a superconductive composite member which comprises the step of hot-shaping an intermediate composite of super- conductor material at a temperature such that the material is present in at least a partially molten state. This appealed subject matter is adequately illustrated by independent claim 1 which reads as follows:

> 1. In a method for manufacturing a superconductive composite member by introducing an oxide ceramic superconductor material into an envelope to form an intermediate composite, shaping the intermediate composite into a final composite by a cross sectional-reducing, and thermal heat-treating the final composite for recovering and for setting the oxygen concentration, the improvements comprising the shaping steps including heating the intermediate composite to a temperature at which the superconductor material is present in at least a partially molten state, and subjecting the intermediate composite at said temperature to at least one hot-shaping step.

The references relied upon by the examiner as evidence of obviousness are:

Yamamoto et al. (Yamamoto) 5,169,831 Dec. 8, 1992

Japanese Kokai patent 56-59530 May 23, 1981
(Takizawa)

Perng et al. (Perng), "Y-Ba-Cu-O superconducting films grown on (100) magnesia and sapphire substrates by a melt growth method without crucible," Supercond. Sci. Technol., Vol. 3 (1990) pp. 233-237.[2]

Claims 1, 2, 6, 8, 11, 15 and 18 are rejected under 35 U.S.C. § 103 as being unpatentable over Yamamoto in view of the admitted prior art on pages 1 and 2 of the Appellants' Specification.

Claims 3, 7, 9 and 10 are rejected under 35 U.S.C. § 103 as being unpatentable over Yamamoto in view of the admitted prior art as applied above, and further in view of Takizawa.

As a preliminary matter, we observe that the appealed claims will stand or fall together as grouped in the above noted rejections; see page 4 of the Brief.

OPINION

[2] The Perng reference has been relied upon by the examiner as evincing the solid/molten characteristics of Yamamoto's composite material.

We will sustain each of these rejections for the reasons set forth below.

The Rejection based on Yamamoto in view of the Admitted Prior Art

The propriety of this rejection depends upon the interpretation given to Yamamoto's disclosure at lines 10 through 16 in column 5 and at lines 39 through 44 in column 11. According to the appellants' interpretation of this disclosure, "the reference specifically states that you do not want to melt any of the powder during the heating process, which accomplishes sintering, and during which deforming or shaping can occur" (Brief, page 6). Stated otherwise, the appellants interpret Yamamoto's heating/sintering disclosure in columns 5 and 11 as teaching "that the temperature is selected to be in a range of below the lowest melting point of any constituent" (Supplemental Reply Brief, page 2). We do not agree with the appellants' interpretation of Yamamoto.

In the first place, the appellants are plainly incorrect in arguing "the [Yamamoto] reference specifically states that you do not want to melt any of the powder during the heating process" and in arguing "Yamamoto [states] that the temperature is selected to be in a range of below the lowest melting point of any constituent." No such statements appear

in the reference. Rather, patentee's heating/sintering temperature disclosure expressly teaches "an upper limit corresponding to the lowest melting point of any one of constituent components in the material powder" (column 5, lines 11-13) and "an upper limit which is defined by a melting point which corresponds to the lowest melting point of any one of constituent components in the material powder" (column 11, lines 40-43). From our perspective, one with ordinary skill in the art would have interpreted these explicit teachings as defining a heating/sintering temperature range as including an upper limit temperature equal to the lowest melting point temperature of the constituent components in the material powder. When conducting patentee's sintering and shaping operations at such an upper limit temperature, the material powder would unquestionably be "in at least a partially molten state" as recited in the independent claims on appeal.

In addition to the foregoing, it is our opinion that the examiner has provided a reasonable basis for believing that the material in Yamamoto's Example 1 would be in at least a partially molten state when heated to the 910EC temperature of this Example during the sintering and wire-drawing operations.

Under these circumstances, we consider it fair to require the appellants to prove that patentee's Example 1 material is not in at least a partially molten state at this 910EC temperature. Whether the rejection is based on "inherency" under 35 U.S.C. § 102, on "prima facie obviousness" under 35 U.S.C. § 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the inability of the Patent and Trademark Office to manufacture products or to obtain and compare prior art products or their methods of manufacture. In re Best, 562 F.2d 1252, 1254-1255, 195 USPQ 430, 433-434 (CCPA 1977).

For the above stated reasons, we will sustain the examiner's § 103 rejection of claims 1, 2, 6, 8, 11, 15 and 18 as being unpatentable over Yamamoto in view of the admitted prior art.

The Rejection based on Yamamoto, the Admitted Prior Art and Takizawa

We agree with the examiner's conclusion that it would have been obvious for one with ordinary skill in the art to provide the method of Yamamoto with a die or roller heating step in order to obtain the benefits of this technique which

is shown by Takizawa to be well known in the prior art. We also agree with the examiner's conclusion that an artisan with ordinary skill would have found it obvious to determine workable or even optimum temperatures for this heating step, thereby achieving the temperature range defined by the here rejected claims. In re Boesch, 617 F.2d, 272, 276, 205 USPQ 215, 219 (CCPA 1980).

According to the appellants, Takizawa "does not teach or suggest drawing while in a partially molten state, since most wire drawing systems, if the wire were in a partially molten condition at the time of drawing, would result in breaking or tearing apart of the wire" (Supplemental Reply Brief, page 3). As correctly indicated by the examiner, however, this argument is unsupported by evidence and accordingly is unpersuasive for this reason alone. In re Pearson, 494 F.2d 1399, 1405, 181 USPQ 641, 646 (CCPA 1974). Additionally, the argument is controverted by our previous discussion concerning Yamamoto's disclosure in columns 5 and 11 in which we explained that patentee's composite material would be in a partially molten condition when conducting the sintering and shaping (e.g., die drawing) operations at the upper temperature limit. Finally,

the argument does not appear to be germane to the claims under review since these claims do not require that the die or roller temperatures be high enough to effect a molten condition of any kind much less one which would be expected to "result in breaking or tearing apart of the wire" as urged by the appellants.

Under these circumstances, we will also sustain the § 103 rejection of claims 3, 7, 9 and 10 as being unpatentable over Yamamoto in view of the admitted prior art and further in view Takizawa.

Conclusion

The decision of the examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

EDWARD C. KIMLIN Administrative Patent Judge	)	
BRADLEY R. GARRIS Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
CHUNG K. PAK Administrative Patent Judge	)	

Appeal No. 95-3209
Application No. 08/020,304

Hill, Steadman & Simpson
85th Floor Sears Tower
Chicago, IL 60606